

## WHY DO WE OIL OUR BOOTS, SHOES AND HARNESS?

The hides of animals, if dried without any previous preparation, soon become hard and stiff, and of a consistence very much like glue. If used in this condition they crack and break where bent, and their use is attended by much inconvenience. If wet they become soft but heavy, and if not dried undergo a slow putrefaction. To prevent this putrefaction, and at the same time to make them soft and pliable, they are immersed in a liquid containing tannic acid. This compound fills up partially the pores, rendering it less permeable by water, and less destructible from exposure to the atmosphere. To make it still more soft, pliable and impervious, a quantity of oil (more or less according to the use for which it is destined) is incorporated into its body. This, with the previous removal of the hair, and other manipulations of the carrier, complete the manufacture.

If now kept dry, it retains its suppleness for a length of time, but evidently the oxygen of the atmosphere, that great destroyer of all organized matter, changes the oil to a gummy or waxy substance, and the leather loses its flexibility and strength. If, on the contrary, it is exposed to wet and the alkalies unite with the oil in the leather, and form soap, a substance of no use to the leather, and soon removed therefrom by its lack of adhesion.

Understanding this, the hint is at once taken, the necessity at once seen, of frequently supplying this loss of oil, if we would preserve the leather. The leather used as harness for teams and that worn upon the feet, is also subject to the action of the alkaline salts exuding from the skin in perspiration, uniting again with the oil, destroying its softening quality. Thus we see that a harness, having been long worn, becomes stiff if put in warm soft water. The pressure of the water determines to the surface a light colored saponaceous and gummy substance, the result of the combination of the oil with the sweat, which it is necessary to cleanse off to make room for, and render the leather permeable to a new application of oil.

There has been much discussion in a neighboring paper about the manner of oiling harness, one party contending for, and the other against the use of boiling water in cleansing. I shall not side with either, thinking the question is better settled by experiment than dispute. Water somewhat heated seems to be very necessary, but I think that somewhere between blood heat and the boiling point, say 125 to 160 deg. is sufficiently hot, and not injurious. We have probably all learned that our boots and shoes are more likely to be injured by the heat of the stove when wet, than when dry; but this by no means proves that immersion in boiling water is injurious, still it offers a hint for experiment.

AGRICOLA.

**SLEEP OF PLANTS.**—Plants sleep as well as animals; the attitude that some of these assume on the approach of night is extremely interesting to those who delight to study the beautiful phenomena of vegetable life. Some plants exhibit signs of sleep more marked than others. The leaves of clover, lucerne, and other plants close as the sun approaches the horizon; and in the honey locust this characteristic is particularly striking and beautiful. The delicately formed leaves close in pairs at nightfall, and remain so until the rising of the sun in the morning, when they gradually expand to their fullest extent. It is in common garden chickweed (*stellaria media*) that the most perfect exemplification of the conjugal love and parental care of plants is observed. At the approach of night the leaves of this delicate plant, which are in pairs, begin to close towards each other, and when the sleeping attitude is completed these folded leaves embrace in their upper surfaces the rudiments of the young shoots; and the uppermost pair (but one) at the end of the stalk are furnished with longer leaved stalks than the others, so that they can close upon the terminating pair and protect the end of the shoot.

**BOX MEASURES FOR FARMERS AND PLANTERS.**—A box 24 by 16 inches square and 29 inches deep, will contain a barrel—5 bushels, or 10,376 cubic inches. A box 24 by 16 inches square and 14½ inches deep, will contain half a barrel—2½ bushels, or 5,188 cubic inches. A box, 16 by 16½ inches square and 8 inches deep, will contain also a bushel, or 2,168½ cubic inches; each inch in depth holding one gallon. A box 12 by 11½ inches square and 8 inches deep, will contain half a bushel, or 1,075½ inches; each inch in depth holding half a gallon. A box, 8 by 8½ inches square and 8 inches deep, will contain half a peck, or 198½ cubic inches, the gallon dry measure. A box 4 by 4 inches square and 4½ deep, will contain one quart, or 62½ cubic inches.—*Perth Courier*.